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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,107	03/23/2006	Josef Artelsmair	ARTELSMAIR 5 PCT	4453
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COLLARD & ROE, P.C. 1077 NORTHERN BOULEVARD ROSLYN, NY 11576			RALIS, STEPHEN J	
			ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/573,107	Applicant(s) ARTELSMAIR, JOSEF	
	Examiner STEPHEN J. RALIS	Art Unit 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-7 and 9-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-7 and 9-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
2. Applicant is respectfully requested to provide a location within the disclosure to support any further amendments to the claims due to when filing an amendment an applicant should show support in the original disclosure for new or amended claims. See MPEP § 714.02 and § 2163.06 ("Applicant should specifically point out the support for any amendments made to the disclosure.").

Response to Amendment/Arguments

3. Applicant's arguments with respect to claims 4-7 and 9-21 have been considered but are moot in view of the new ground(s) of rejection.

Claim Objections

4. Claim 13 is objected to because of the following informalities: "the wire" in lines 2 and 3 should read –the welding wire–. Appropriate correction is required.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 4-7 and 8-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Steele (U.S. Patent No. 2,906,859) in view of Ogilvie et al. (U.S. Patent No. 4,758,707).

Steele discloses a method for controlling a welding process using a melting welding wire (electrode 12) and a welding torch (welding head 13)(Title) comprising the steps of: (a) igniting an electric arc (column 8, lines 40-44); (b) subsequently conducting welding, the welding being adjusted on the basis of several different welding parameters (voltage and electrode feed) and controlled by at least one of a control device (see Figure 1) and a welding current source (AC supply; see Figure 1); and (c) carrying out at least one mechanical adjustment process (moving electrode 12 up and down; column 5, lines 22-53; column 8, lines 26-64; see Figures 1, 2) during the welding to determine the position of the welding wire (electrode 12) using the welding wire (electrode 12) as a sensor (arc voltage); wherein, during the at least one mechanical adjustment process (moving electrode 12 up and down), the welding torch (welding head 13) is maintained in position (see Figure 2) and; wherein, during the at least one mechanical adjustment process (moving electrode 12 up and down), contacting of the welding wire (electrode

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12) with a workpiece (work 10) is effected by moving the welding wire (electrode 12) towards the workpiece (work 10) (column 8, lines 26-52); and wherein, after contacting of the welding wire with the workpiece (work 10), the welding wire is moved away from the workpiece (work 10) to a fixedly pre-given or adjustable distance relative to the workpiece (work 10) (column 8, lines 52-58; see Figure 2).

With respect to the limitations of claim 4, Steele discloses during the movement of the welding wire (electrode 12) towards the workpiece (work 10) (column 8, lines 26-52), the welding parameters (voltage, etc.) are controlled in a manner that the electric arc is maintained until immediately before the contacting of the welding wire (electrode 12) with the workpiece (work 10) (column 8, lines 26-52).

With respect to the limitations of claim 5, Steele discloses the contacting of the welding wire (electrode 12) with the workpiece (work 10) being detected when a short circuit is recognized (column 8, lines 26-52).

With respect to the limitations of claim 6, Steele discloses after the detection of said contacting, the end of the welding wire (electrode 12) being reset to a zero position (advancing the welding head with respect to the work to start welding; column 8, lines 26-52).

With respect to the limitations of claim 7, Steele discloses the welding wire (electrode 12) being moved back after contacting with the workpiece (work 10) (column 8, lines 52-58; see Figure 2).

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With respect to the limitations of claim 9, Steele discloses the distance being determined via the welding voltage (U), the welding current (I) or the time (t) during the movement of the welding wire (welding arc voltage; whole document).

With respect to the limitations of claim 10, Steele discloses the at least one mechanical adjustment process (moving electrode 12 up and down) being initiated by settings selected by the user or by fixed defaults (fixed reference voltage).

With respect to the limitations of claim 11, Steele discloses the at least one mechanical adjustment process (moving electrode 12 up and down) being initiated by a trigger signal column 5, lines 22-53).

With respect to the limitations of claim 12, Steele discloses the at least one mechanical adjustment process is initiated at defined times (during welding).

With respect to the limitations of claim 13, Steele discloses the wire being advanced at a wire advance speed (V) and the wire advance speed is increased during the at least one mechanical adjustment process.

With respect to the limitations of claim 15, Steele discloses the welding wire (electrode 12) having a length (see Figure 2) through which welding current flows and the length (see Figure 2) being measured during the at least one mechanical adjustment process (moving electrode 12 up and down; column 5, lines 22-53; column 8, lines 26-64; see Figures 1, 2).

With respect to the limitations of claims 16 and 17, Steele discloses the electric arc being newly ignited (at first initialization) during the at least one mechanical adjustment process (moving electrode 12 up and down) as the welding wire (electrode

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12) is lifted off the workpiece (work 10) at a desired distance (column 8, lines 26-64; see Figures 1, 2).

With respect to the limitations of claims 18 and 19, Steele discloses the at least one mechanical adjustment process (moving electrode 12 up and down) being carried out at the beginning of the welding and carried out at the end of the welding (throughout welding would include the beginning and the end; column 8, lines 26-64).

With respect to the limitations of claim 20, Steele discloses the position of the welding wire (electrode 12) determined during the at least one mechanical adjustment process (moving electrode 12 up and down) being transmitted to a robot control (motor mechanism combination; see Figures 1, 2).

Steele discloses all of the limitations of the claimed invention, as previously set forth, except for the welding parameters being controlled in a manner that no or only little welding wire material melting is effected; avoiding melting of the welding wire; and the at least one mechanical adjustment process being carried out during a base current phase of the welding.

However, the welding parameters being controlled in a manner that no or only little welding wire material melting is effected and the at least one mechanical adjustment process being carried out during a base current phase of the welding instead of a welding current phase is known in the art. Ogilvie et al, for example, teach detecting a lowest arc voltage across an arc load during a predetermined time period immediately preceding the on-set of each current pulse (Abstract; column 2, line 60 – column 3, line 17). In addition, it is deemed that such a base voltage would provide no

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or only little welding wire material melting being effected since the voltage is at its lowest level. Ogilvie et al. further teach such a configuration keeps the complexities associated with arc length, arc voltage, molten material formation, etc. to a minimum and avoids errors due to short circuiting. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the voltage comparison step of Steele with the detecting of a lowest arc voltage across an arc load during a predetermined time period immediately preceding the on-set of each current pulse in order to keep the complexities associated with arc length, arc voltage, molten material formation, etc. to a minimum and avoid errors due to short circuiting.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHEN J. RALIS whose telephone number is (571)272-6227. The examiner can normally be reached on Monday - Friday, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen J Ralis/
Primary Examiner, Art Unit 3742

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Primary Examiner
Art Unit 3742

SJR
April 7, 2010